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POPULATION DYNAMICS IN THE CONTEXT OF SOCIO-ECONOMIC DEVELOPMENT PLANNING

I. INTRODUCTION

1. The objective of this paper is to review, briefly within the introduction, past, present and future population size, structure, and composition in Africa. Section II deals with mortality, and international migration. The interrelationships among population, socio-economic development and resources are presented in Section III. A summary and recommendations for consideration by the conference are presented at the end of the paper as Section IV. Fertility and aspects of internal migration are not dealt with as separate sections as there are specific papers on these presented to this conference.

Past, present and future population size, structure, and composition in Africa

2. Based on United Nations medium variant population estimates[1/], the total population of Africa which was 224 million in 1950, more than doubled in 30 years to reach 479 million in 1980. In another 30 years from 1980 the population in Africa will again more than double to reach 1.158 billion people by the year 2010. However, if one compares the 1950 population estimate and the projected figure for 2010, one notes that the population will have increased more than five fold during the 60 year period, if the assumptions used in the estimates and projections remain more or less unchanged. In 1988 Africa's population is estimated at about 607 million people and the figures for 1990, and 2000 are 645 million, and 871 million respectively. Africa had 11.5% of the world population in 1985 and this proportion is expected to reach 16.6% by the year 2010. Africa has the highest population growth rates in the world at 3% per annum while in other regions of the world the rates are 2.3% in Latin America, 2.2% in South Asia, 1.2% in East Asia, 1.5% in Oceania, 0.9% in North America, 0.96% in USSR, 0.3% in Europe, and 1.7% for the world as a whole. What is worth noting is that Africa is the only region whose population growth rate has continued to increase since 1950. Africa's high population growth rates are a result of the very high fertility rates--- crude birth rates of about 45 per 1000, and high but declining mortality rates---crude death rates of about 16 per 1000. Between now and 2000 there does not seem to be any hope that there will be significant decline in population growth rates, unless Maternal and Child Health (MCH) and Family Planning (FP) Programmes being currently adopted by member States are vigorously implemented.

3. The total population of only ECA member States as of mid-1988 is about 570 million. About 19% of that population is in Nigeria, the only country with over 100 million people (105.6 million). The next 7 countries that follow are estimated to have the following population as mid-1988: Egypt 50.3 million, Ethiopia 47.3 million, Zaire 32.8 million, Tanzania 25.1 million, Algeria 23.9 million, Morocco 23.6 million, and Kenya 23.4 million. Thus all these seven countries contain about 40% of the ECA member States population. Together with Nigeria, it is seen that about 59% of the population reside in 8 countries. In Cameroun, Côte d'Ivoire, Ghana, Madagascar, Mozambique, and Uganda, population ranges between 10.7 million and 17.2 million. It is noted that 13 countries

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1/ United Nations, World Population Prospects. Estimates and Projections as assessed in 1984, New York 1986.

each has the total population of 5 million or over but less than 10 million. However 20 countries each has a population of less than 5 million ranging from .7 million to 4.4 million.

4. The sex composition of a population is best described by using a sex-ratio which is defined as the number of males per 100 females. For Africa as a whole the sex ratio is about 99 at present and it is expected to remain at this level till at the end of this century. Thus there are slightly more females than males. With regard to the age structure, it is observed that 45% of the population in Africa is under 15 years old. This is the population whose needs have to be taken care of by those in the age group 15 to 64 years. This age group constitutes 52% of the total population while those over 64 years are only 3% of the total population. The median age of the population in Africa is about 17. This compares with the median ages of 20 for South Asia, 21 for Latin America, 25 for East Asia, 34 for Europe, 31 for North America, 30 for USSR and 28 for Oceania. Thus Africa has the youngest population in the world.

5. The majority of the African population (over 70%) live in rural areas. There has been a continued movement of the population from rural areas to urban areas. This has significant implications on socio-economic development on both urban and rural areas. International migration plays an important part in socio-economic development in some regions of Africa especially in Northern Africa, Southern Africa, and Western Africa. The changing attitudes and economic environment in both sending and receiving countries show that international labour migration is being reduced. The impact on sending countries will have implications on socio-economic development.

II. MORTALITY AND INTERNATIONAL MIGRATION

a) MORTALITY

6. Mortality, together with fertility and migration, is an important component of population growth in Africa. Available information suggest that mortality continued to decline in about all African countries in the recent past. However, demographers do not agree on the magnitude and size of mortality decline on the continent. Some believe that there has been a deceleration of mortality decline in a number of African countries because of economic crisis, political instability, draught and food crisis, and the outbreak of diseases like cholera, yellow fever and AIDS as well as high incidence of malaria in almost half the continent.

7. Recent estimates of mortality prepared since the previous joint conference suggest that mortality in Africa dropped only slightly. Crude death rates (CDR) though a little lower than in 1984, are still quite high compared to countries in other regions like South Asia and Europe. The range of estimates of CDR is from about 6 to 29 for Mauritius and Gambia respectively. Estimates of Infant Mortality Rates (IMR) ranged from 28 in Mauritius to 180 in Mali and Sierra Leone. Estimates of IMR are particularly important as yardstick for measuring health conditions among different countries. The estimates of life expectancy at birth are lowest for Gambia at about 35 years and highest in Mauritius

at about 70 years. The wide ranges observed in these statistics should be of great concern to us all suggesting people in Africa live under varied severe mortality conditions.

i) Mortality Measurement:

8. There are three major measures of mortality used to analyse mortality levels, patterns, trends and differentials. The three indices are CDR, IMR and e^{o}_{x}. The IMR is the most important for comparing mortality conditions among countries because it is sensitive to conditions of health of the people in various African countries and as an informative indicator since many deaths are concentrated in the first year of life. The e^{o} is the second most useful measure of mortality since it estimates average number of years to be lived by a cohort of people born at a particular year. The CDR is less used for comparative mortality analysis because of its sensitivity to population age structure.

9. The latest assessment of world population estimates and projections recorded that mortality indices reached new levels. For the period 1980-85 the crude death rate for Africa was estimated at 16 deaths per 1000 population compared to 10 for developed countries and 11 for developing countries and the world as a whole. Estimates of expectation of life at birth suggested that Africa has the lowest life span of only 49 years compared to 73 for the developed countries, 60 for the world as a whole and 57 for all developing countries. The estimates for infant mortality rates (IMR), which are important indicators of status of health of the people, also place Africa at a disadvantage. The estimates of IMR of 112 were highest for Africa compared to only 16 for developed regions and the world as a whole and developing regions at 78 and 88 respectively.

10. These estimates of mortality levels for the same period vary greatly within Africa sub-regions. The estimates of CDR were at same level of 18 for Eastern, Middle and Western Africa followed by Southern Africa at 14 and Northern Africa having the lowest estimate fixed at 12. Corresponding values of life expectancy at birth were: 47 for Eastern and Western Africa, 48 for Middle African countries, 53 for Southern Africa and Northern Africa had the highest life expectancy of 57. This variation in levels of mortality among sub-regions can also be illustrated by estimates of IMR. The highest levels of IMR were computed for Western Africa at 123 followed by Eastern, Middle, Northern and Southern Africa at 120, 117, 100 and 87 respectively.[1/] One important observation is that all the five African sub-regions lie within a narrow range of mortality as measured by any one of the three indices. This suggests that mortality still remains very high in the region.

11. Most countries in Africa have mortality patterns which suggest more unfavourable mortality conditions for males than females. These sex patterns of mortality were revealed in an analysis of life tables prepared from census data of 17 countries from Eastern, Western, Northern and Southern Africa. The results indicate that the median age at death was higher for females than males in almost all the countries.

1/ United Nations World Population Chart 1985, New York 1986.

12. The pattern of mortality in entire population as revealed from recent studies undertaken by ECA suggest that mortality patterns in African countries were generally a configuration of the North and South families of the Coale and Demeny model life tables. The census data from most sub-Saharan African countries fitted more with the North family while data from Northern African countries tended to correspond to the South model pattern of mortality.

13. African countries like other countries in developing regions have experienced mortality decline in the past two or three decades. The estimates and projections of world population prepared in 1984 confirm this. Mortality declined from high levels in 1950s to almost half by 1980s in most African countries. Between 1950-55 and 1980-85 mortality declined in terms of CDR from 27 to 16 per 1000 population. Similarly IMR also dropped significantly from about 200 to 100 infant deaths per 1000 live births during the same period. However, life expectancy at birth increased from less than 40 years in 1950-55 to almost 50 years in 1980-85. This observation suggest that Africans have not gained much from experience of mortality decline as compared to other parts of the world. However, e_o it is apparent that positive mortality changes have been observed in terms of e_o in most countries since they have gained between 10 and 20 per cent in e_o suggesting a gradual mortality decline of that magnitude.[1/]

14. Studies of mortality differentials like those of mortality patterns enable Governments directing efforts to improve health status of people affected most. Within a country mortality varies between rural and urban areas of residence, among population sub-groups classified by level of education attained, their marital status and even religious affiliation. Recent studies undertaken by ECA suggest that in Sudan, Nigeria, Kenya, Côte d'Ivoire and Senegal, mortality for children whose parents had no education was twice that for parents with education. Similarly mortality in urban areas was significantly lower than in rural areas, except for Sudan.[2/]

ii) Mortality Prospects

15. In summary therefore from estimates presented so far on mortality levels and trends it is apparent that mortality in African countries will continue to decline at a slow pace. There are presently several factors which will bring about improvement in the levels of mortality. The most important factor is that almost all African countries have recognized the importance of improving the well-being of the people through efforts to reduce high levels of mortality particularly among infants, children and mothers. This recognition is endorsed in the Kilimanjaro Programme of Action on Population in which African countries have been called upon to intensify their national programmes to reduce current high levels of infant, childhood, and maternal morbidity and mortality, especially

1/ ECA, "Mortality Levels, Patterns, Trends and Differentials in Africa" in African Population Studies Series, No. 8, Addis Ababa 1985.

2/ ECA, Infant and Childhood Mortality & Socio-economic factors in Africa, An Analysis of World Fertility Survey Data. Addis Ababa 1987.

for mothers and children in rural areas. This recommendation was further strengthened by the recommendations of the International Conference on Population (ICP) held in Mexico, in 1984.

16. For African countries to achieve the ICP target of attaining life expectancy at birth of 60 years by the year 2000 it imples that between 1980 and the year 2000 an average gain per year of about 0.75 in life expectancy at birth should be attained. The prospects for Africa to achieve these targets are, however, not encouraging. Mortality trends since 1950 suggest that Africa has achieved on the average an annual increment in life expectancy of only 0.39 years per year in the past three decades.[1]

b) PATTERNS AND TRENDS IN INTERNATIONAL MIGRATION

17. Intensive spatial mobility has long characterised African populations. In recent years the two main types of international migration are inter-country migrations and the large-scale movements of refugees.[2] International migrations in North Africa and sub-Saharan Africa display different patterns. In North Africa, international migrations involve emigration to Western Europe especially from Algeria, Morocco and Tunisia, and recently, to the oil rich Arab countries of the Arabian Peninsula and the Persian Gulf as well as Libya in North Africa. In sub-Saharan Africa the main type of international migration consists of intercountry labour movements towards more developed agricultural, mining and industrial regions.

i) North Africa[3]

18. For several decades, the three Maghreb countries (Algeria, Morocco and Tunisia) have supplied the industrial countries of Western Europe with migrant labour. However, from the 1970s as a result of restrictive measures in the major immigration countries, a marked decline has occurred to emigration to Western Europe. In the meantime, the oil rich countries of the Arabian Peninsula and the Persian Gulf along with Libya have assumed importance as receiving areas of migrants from North Africa.

1/ UN, World Population Prospects, Estimates and Projections as Assessed in 1984, New York, 1986, pp. 37-40.

2/ For more information on this subject see, "International Migration in Tropical Africa," special issue of International Migration Review, Vol. 8, Fall 1974.

3/ United Nations, International Migration Policies and Programmes: A World Survey, ST/ESA/SER.A/80 (New York 1982); and United Nations, Trends and Characteristics of International Migration Since 1950, ST/ESA/SER.A/64 (New York: 1979).

ii) West Africa

19. International migration in this sub region consists largely of labour mobility for employment and trade based on seasonal trends: migrants (mainly males) from inland countries especially Burkina Faso, Mali and Niger shuttle between their homes and coastal regions in especially Côte d'Ivoire, Ghana and Senegal.

20. Recent developments, including legislations restricting foreign immigration, a rash of expulsion of foreign nationals in certain countries and poor economic performance of the major receiving countries have resulted in changes in international migrations flows. For instance, it would appear that Ghana became a net emigration country during the period 1975-1982. Also Côte d'Ivoire, faced with difficult economic problems, has expressed the wish to reduce immigration. Nonetheless, it seems certain that previous pattern of emigration from Burkina Faso and Mali is still taking place, though on a reduced scale.

iii) Southern Africa[1]

21. International migration in Southern Africa is characterised by short-term, movements, of about 6 to 12 months, of young males from Botswana, Lesotho, Malawi, Mozambique and Swaziland to the mining and industrial complexes of South Africa, Zimbabwe and Zambia, with migration to South Africa highly regulated.

22. In all the main receiving countries immigration has decreased in recent years. With respect to South Africa, it is mainly due to two factors: the desire by the South African Government to reduce the dependence of the gold industry upon foreign labour and the institutionalization by the labour recruitment processes aimed at controlling the occupational and locational mobility of foreign migrant labour. In the labour exporting countries because of the effects of the movement on rural areas and the restrictive immigration requirements some steps have been taken to reduce the rate of out-migration to South Africa. However the reduction in the number of labour emigration has proved difficult for Lesotho, which traditionally had had a much bigger emigrant labour force in South Africa compared with Botswana or Swaziland.

23. The inflow of foreign migrant workers into both Zimbabwe and Zambia has decreased because these Governments have, since independence, attempted to foster the indigenization of jobs by pursuing economic policies geared towards self-reliance. To this end, they have instituted more stricter control over the granting of work permits and introduced closer surveillance of their land borders.

iv) Eastern and Central Africa

24. Inter-country movements, for example across the borders of Kenya, Uganda, and Tanzania, for employment in rural agriculture and increasingly in urban areas, have been the main feature of international migration in East Africa within the last two decades. Though sporadic border closures have sometimes resulted in temporal declines, movements among neighbouring countries are still extensive. Also, the emergence of refugee movements is another important migration trend in Eastern Africa recently.

1/ UN, op.cit

25. The two major receiving countries in Central Africa are Gabon and Zaire. Gabon's immigrants are mainly workers from Central and West Africa, who form a sizeable proportion of the country's population. The Government has recently expressed the desire to reduce the number of immigrants. Zaire, on the other hand, has been for a long time now an asylum of refugees from neighbouring countries.

III. INTERRELATIONSHIPS AMONG POPULATION RESOURCES AND SOCIO-ECONOMIC DEVELOPMENT

26. The World Population Plan of Action (WPPA) adopted at the 1974 World Population Conference, the Lagos Plan of Action (LPA) adopted by the African Heads of State and Government in 1980, the Kilimanjaro Programme of Action on Population (KPA) adopted by African Governments in 1984, and the International Conference on Population (ICP) held in Mexico in 1984, have all recognized the interrelationship between population and development and the need to consider population as an integral component of socio-economic development. The interrelation between population and development is not always easy to explain, however the impact of population on development is easily noticed when one examines current socio-economic problems facing African Governments in the face of increasing population growth. Population can have a positive as well as a negative impact on socio-economic development depending on the level of technology available. Similarly the level of socio-economic development can have an impact to depress or increase population growth rates. Hence any attempts to resolve current socio-economic problems in Africa must include both demographic and socio-economic policies conducive to raise the overall standard of living of the population.

27. It is in this context that Africa's Priority Programme for Economic Recovery (APPER) 1986-1990, emphasized that population issues should be taken into account in the formulation and implementation of economic policies and programmes with a view to accelerate socio-economic development at National, sub-regional, regional, continental and international levels. Among the specific actions to be taken at national level as indicated in APPER with regard to population and development include, formulation of national population policies; programmes to reduce high levels of infant, childhood and maternal mortality and morbidity especially in rural areas, as well as formation of national family planning programmes where necessary; formulation of a comprehensive rural development policy to stem the rural - urban migration; introduction of context-specific population redistribution/settlement policies, appropriate population legislation, population education and information programmes.[1]

28. The United Nations Programme of Action for African Economic Recovery and Development (UN-PAAERD) 1986-1990 adopted by the General Assembly in 1986 has called for a number of policy reforms to be undertaken by African Governments in order to achieve the objectives of APPER. UNPAAERD states, among other things, that special importance need to be accorded by each African country to a population policy that, on the basis of the KPA, address issues of high fertility and mortality, rapid urbanization, rural-urban, rural-rural migration, the problems of children and youth, and the protection of the environment in a manner that would ensure

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1/ Organization of African Unity Africa's Priority Programme for Economic Recovery 1986-1990, July 1985, pp. 21-22.

compatibility between demographic trends, appropriate land utilization and settlement patterns, and the disired pace of economic growth and development.[1] Thus KPA, APPER and UNPAAERD are all relevant to this paper on population dynamics in the context of socio-economic development.

29. The brief background concretely places population dynamics as an integral component of socio-economic development. While the interrelationship between population and development are complex and difficult to disentangle, various studies, including the proceedings of the Expert Croup on Population, Resources, Environment and Development held in Geneva in 1983, as well as studies on the World Fertility Survey published in 1987 are contributing significantly to the understanding of some of the interrelationships and their impact. The rest of this section is devoted to the interrelationships among population resources, and socio-economic development using selected areas of concern including food, health, education, employment, environment/resources, rural/urban development, and consequencies of international migration.

a) Population and Food

30. The food and population imbalance situation has worsened in the 1980s in Africa following the 1974 World Food Conference which at that time adopted resolution IX on the achievement of a desirable balance between population and food supply. During the 1970s, Africa's food production grew at 1.7% per annum[2] while population grew at 2.9% per annum. During 1980 to 1981 and 1982 to 1983 food crops production rates were 1.0% and 0.2% respectively[3] while population growth rates were about 3%. Research has shown that more than 40% of the African population live in countries where yields per hectare are lower today than they were a generation ago.[4] Relating the 1980-1986 food production index growth rates (using 1979-1981 as base year) to population growth rates for 1980-1985, it is observed that in 62% of the 50 ECA member countries shown in Table 1, food production index growth rates were less than population growth rates.

31. It should be stressed that the availability of adequate food is one of the crucial requirements for a healthy life. When the population has adequate food it is in a position to expend energy in various economic activities to foster greater productivity. The consequences of insufficient food availability are malnutrition, increased morbidity and mortality. This in turn lower productivity in genral in all economic development activities. In 1975 it was estimated that 25% of the African population had inadequate protein/energy supply in their diets;[5]

1/ UN General Assembly, United Nations Programme of Action for Africa Economic Recovery and Development 1986-1990, Document A/RES/S-13/2, 13 June 1986, p. 11.

2/ United Nations, World Population Trends, Population and Development Interrelationships and Population Policies 1983, Monitoring Report, Vol. 1 N.Y. 1985, p. 8.

3/ ECA, Report on the Implementation of the Food & Agricultural Aspects of the Lagos Plan of Action (1980-85) E/ECA/CM.12/6, 9 March 1987 See Annex I, Table 5.

4/ World Watch Institute, Reversing Africa's Decline, Lester Brown and Edward C. Wolf, Paper No. 65, June 1985, P. 60.

5/ ECA, Survey of Economic and Social Conditions for Africa, 1977-1978, Part I.

As the food production has deteriorated since 1975 and the population has continued to increase at higher rates, the proportion of the population affected by malnutrition is, no doubt, more serious at present. This is clearly substantiated by the fact that during 1984/85, FAO identified 21 African countries as facing exceptional food supply problems. The situation has not improved much in some countries. The most vulnerable groups of the population affected are children and mothers. Although in the world as a whole there is enough food to feed all the population, African countries lack foreign exchange to import food. Consequently many countries have to resort to food aid which eventually has a demoralizing effect on the recepient countries. Moreover, food aid is far from satisfying food needs of the population.

32. It was estimated that population growth contributed about 77% to the increase in food demand in Africa between 1962 and 1985.[1/] Given the importance of population growth as a major factor in determining total food consumption, policies to slow the rate of population growth rate in combination with other policies to improve and increase food production would contribute to increase availability of sufficient food. It is true that population growth can be an asset to increase food production in Africa. However this is possible only with increased productivity that makes use of technological innovations, large investments in Agriculture, proper management of the land resource and scientific knowledge. These inputs are lacking in African countries and there is need to acquire them. As an illustration, a hectare in Canada and USA can yield 3,860 kilogrammes of cereal while as in Africa a hectare would only yield 839 kilogrammes of cereal.[2/] This means that Canada and USA would produce 4.5 times more per hectare than Africa due to technological innovations and investments in agriculure. It has been stressed that it is only through a considerable expansion and improved efficiency of supporting services that technological innovations and modern inputs can be expected to reach the mass of rural poor and enable the traditional subsistence farmer to produce food for the market.[3/] While Africa does not have to wait till it acquires that technological innovation, with changes in policies that favour better food and agriculture production, Africa can still produce adequate food for its people and even have some surplus.

33. It should be mentioned here that a detailed study on "Food Production and Population Growth was carried out by ECA in 1983 and has been published by the United Nations.[4/] That study concluded that continued population growth without substantial increase in food production makes the task of improving the food situation in Africa very difficult indeed. It also recognized that reduction of population

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1/ FAO, Provisional Indicative World Plan for Agricultural Development, Vol. 1, Conference Document C.69/4 August 1969, p. 15.

2/ Population Concern, Population Misconceptions, London, May 1984, Pages 23 and 29.

3/ FAO, Regional Food Plan for Africa, Rome 1980.

4/ United Nations, Population Resource, Environment and Development (Proceedings of the Expert Group on Population, Resources, Environment and Development, Geneva, 25-29 April 1983) New York 1984, see pages 241 to 265.

growth per se is not a sufficient or essential condition for improving the food and nutrition problems in Africa. The study rightly recommended also policy measures that relate to the pricing of farm produce and inputs, the expansion of cultivated land, priority to food crops instead of cash crops only, reduction of post harvest losses, and an improvement in institutional arrangements for extension services, improving farming husbandry, technology and skill, rationalizing the land tenure systems, the promotion of substitutes for food imports, improvement in livestock and fisheries production, regional and sub-regional co-operation and trade in food and agricultural products among African countries and the control of population growth and urbanization.[1]

34. It should be observed that the UNPAAERD has given a number of measures to improve food and agriculture production in Africa. Some of these measures which are similar to what has been indicated in the proceeding paragraph call on African countries to[2] raise substantially investment in agriculture, improve land productivity, establish remuneration produce pricing policies; develop mechanization and the use of modern farm processing machinery, increase use of fertilizers, improve seeds and pesticides; improve and expand the storage capacity, distribution and marketing systems; develop agricultural research and extension; put at the disposal of the small farmers the necessary inputs for increased yields; establish assistance programmes for small farmers, especially women food producers and rural youth. In addition UNPAAERD states that African countries should also push for the attainment, within the shortest possible time, of an agro-food production growth rate at least equal to population growth rate.[3] Finally UNPAAERD calls for improvement in other sectors in support for agriculture, namely, agro-related industries, transport and communication, trade and finance.[4]

b) Population and Health

35. The health situation in Africa is far from being satisfactory despite the tremendous efforts governments are making to improve and expand health services for the people. This is illustrated by the fact that life expectancy at birth in Africa was round 50 years during 1980-85 as compared to 73 years in the developed regions. Table 1 shows that in 31 of the 50 African countries (i.e. 62%), life expectancy at birth was below 50 years between 1980-85. Only Algeria, Mauritius, Sao Tome and Principe, and Tunisia had life expectancy at birth of 60 years and over. In 34 African countries infant mortality ranged between 100 and 180 per 1000 live births during 1980-1985. While a healthy population is an asset to socio-economic development, a population with poor health is a liability to socio-economic development.

1/ Ibid, pp. 262-263.

2/ United Nations General Assembly, United Nations Programme of Action for African Economic Recovery and Development, 1986-1990, op.cit, p. 6.

3/ Ibid, p. 11.

4/ Ibid, p. 7.

36. For good health, one needs adequate food supplies and nutrients, access to clean drinking water, health services, education and reasonable income. The present situation is that these requirements are not met. There exist in urban areas some impressive but not adequate health services while the rural areas are virtually deprived of any meaningful health services. It was because of this imbalance and inadequacy of health services that the World Health Organization came up with the programme on primary health care to emphasize provision of improved health services for the greater majority of the people especially in the rural areas at lower costs than what has been the case in concentrating the expensive health infrastructure in cities.

37. Many African countries are in the process of implementing primary health care programmes towards the goal of health for all by 2000. In general, due to resource constraints, these programmes are not firmly established. There is no adequate information available yet regarding the impact these programmes have had so far. It might be adequate to hope that vigorous implementation of primary health care programmes should be able to contribute to reduction of morbidity and mortality through proper nutrition, and reduction of sickness. The impact of this would be increased productivity in socio-economic development.

38. Improvement in health in the short run contributes to reduction of mortality and increases fertility and hence to increased population growth rates. However in the long run when people are convinced of the survival of their children, there will be a change in fertility intentions and ultimately in fertility levels. Lower mortality will thus lead to lower birth rates in the long run and would result in lower growth rates. However, where mortality rates, especially those of children continue to be high, there would be no prospects for fertility to decline.

39. Rapid population increase is a constraint to the health services as it increases the demand for health services. Already existing services are not adequate and they are deteriorating. Most countries do not have adequate resources to expand and improve the health services. It is thus noted that while the demand for health services increases with increasing population, there is no equivalent growth in health services supplied to match the demand. The conclusion is obvious - worsening of the health conditions. This then reinforces continued population growth resulting in large number of unhealthy population whose labour productivity is low. Moreover, high population growth means that mothers have births which are not adequately spaced. This has profound implications on the health of both the mothers and children in the form of high maternal and infant mortality rates as well as to malnutrition problems of both the mother and the children.

40. Given the vicious circle regarding the impact of high population growth on the provision of health services, it is emphasized that governments in their attempts to implement the primary health programmes should give special attention to the education of women, provision of mother and child health and family planning programmes, and improvements in environment health, and provision of clean drinking water to the population. These activities would contribute to the improvement in the life of the population as well as to reduction of population growth. Such programmes would also need to be complemented with activities that would enable availability of adequate food supplies. Countries need to increase their

investments in the health sector. Without increased investments in the health sector and in the context of continued increase in population growth, it would be difficult to expand and improve the health services.

c) Population and Education

41. Education plays a significant role in the development of human resources which in turn is a catalyst in accelerating economic and social development. Thus educational planning should aim at provision of a general education for the majority of the population of school-age and provision of working-age population with adequate skills relevant to the nation's economic realities. In pursuance to this, the Conference of African States on development of education in 1961 recommended, among other things, the following:-

a) Expansion of primary education with the aim of providing universal free and compulsory primary education by 1980/81.

b) Expansion of secondary school enrolment to absorb the increased numbers leaving primary schools.

c) To reform curriculum at all educational levels so that education would be more responsive to the needs of a changing society and would be appropriate to the needs for structural changes in existing economies.

42. Emphasis in the reform of curriculum at secondary level was laid on technical education and agricultural education.

43. Indeed significant progress has been made to increase enrolment especially at primary level from a gross enrolment ratio of 41% in 1960 to 78% in 1980.[2/] However the object of providing universal free and compulsory primary education by 1960/81 was never achieved and will still remain a dream for years given the demographic impact on education. Expansion of secondary school enrolment has not been adequate to absorb large numbers leaving primary school. Reform to curriculum has not been satisfactory either to respond to Africa's economic and social problems. Table 1 shows that in nearly 60% of ECA member States literacy rates are below 50%. Females are not given equal opportunity in education as males. For example, in 1980 females constituted 41% of the total enrolment at primary level, 38% at secondary level and 27% at higher education.[3/]

1/ United Nations Economic Commission for Africa/United Nations Educational, Scientific and Cultural Organization: Conference of African States on the Development of Education in Africa. Addis Ababa, 15-25 May 1961, Final Report.

2/ United Nations, Population, Resources Environment and Development, New York, 1984, p. 368 (Table 2).

3/ Ibid, p. 470 (Table 3).

44. Rapid population growth is a major factor that increases the demand for education. Most countries are faced with serious problems of expanding their educational institutions to accommodate the increasing numbers of school age population due to limited available resources to invest in education. It is very common these days that in order to accommodate more students some governments have increased pupil/teacher ratios which are not manageable at all and this affects the quality of education. In other cases shifts are introduced to enable more people use the educational facilities. This too lowers quality of education as contact time between teacher and students is significantly reduced. Hence it is not possible to equip the young people with adequate education to enable them contribute actively to socio-economic development. The generally observed results are large numbers of young people who are unemployed. Even those who have education up to secondary or university level are increasingly finding it difficult to get employed in most African countries. With school-age population growing at about 3%, Africa's challenge for expanding and improving education is formidable. Reduction in population growth rates would, no doubt, lessen the magnitude of the problem. Mr. A. W. Clausen, then President of World Bank, noted in 1984 that countries like Malawi faced the doubling or tripling of their school age population by the end of the century. He remarked that with rapid fertility decline could come savings of more than 50% in the school system in 30 years with the resulting savings that could be used to improve the quality of education.1/

45. While the constraints and impact of rapid population growth on education have been noted above, attention is now given to consider the effect and impact of education on population. There is ample evidence that where the majority of the population is highly educated and literate, especially higher education for women, both fertility and mortality are much lower than where educational standard and literacy are low. Thus the combined effect of low fertility and mortality rates is lower population growth rates. Prolonged education postpons age at marriage for women from early marriages to older ages, thus enabling women to shorten child bearing period. Educated women are more likely to have opportunities to be employed in the modern sector out of the home. Such activities have sometimes been associated with lower fertility. In addition educated women are more likely to be receptive to improve the health of their family as well as to accept and practice family planning. In the long run such activities contribute to slower population growth rate. Finally, countries whose population is highly educated and literate are associated with higher socio-economic development and better living conditions of the population in general. Better education creates an environment which enhances the acquisition of innovations and application of scientific technologies which are the main pillars of socio-economic development and progress. The achievement of high socio-economic development level eventually contributes in reducing population growth rate as seen in the developed countries.

46. In conclusion it is emphasised that government policies on education to respond to the increasing educational demands need to be reconsidered to give special priority to preparing the young people with necessary skills and knowledge relevant to developmental needs of the country. In view of the lower educational opportunities accorded to women in the past, this situation must be corrected

1/ The World Bank, Population Growth and Economic and Social Development address by A.W. Clausen to the National Leaders' Seminar on Population and Development, Nairobi, Kenya, July 11, 1984, p. 9.

to enable women have equal educational opportunity in the society. Deliberate policies to enhance reduction in population growth rates should be given serious attention and implemented vigorously as this is likely to lessen the burden of providing educational facilities and services in the context of limited resources.

d) Population and Employment

47. The provision of gainful employment is an important social goal in that it affords an individual and families a means to earn a living. One way to eliminate poverty is to ensure that all eligible persons in the labour force have an employment with adequate remuneration. With the income received from employment the individuals and families should be able to buy their necessities. In the past some countries had the belief that a larger population was necessary for reasons of ensuring a large labour force needed to develop the potential resources. What one observes is that indeed few of those in the labour force have gainful employment in the modern sector and the majority depend on subsistance farming from which they do not generate adequate income to meet their other basic needs. Unemployment and under-employment are reasonably high in both urban areas as well as in rural areas. It has been indicated that open unemployment shot up from 12 million workers or 5.3% of the labour force in 1980 to 22 million or over 10.2% of the African labour force in 1985. Underemployment which stood at 40% affecting 60 million people in 1980, increased to affect about 48% of the labour force or 95 million people in 1985.[1/]

48. In most African countries, university graduates, secondary school and primary school leavers are all finding it increasingly difficult to get gainful employment. As an example, a graduate employment tracer study conducted in 1985 showed that only 10% of the Nigerian University graduates who had completed their national service had secured jobs one year after; 10 years earlier, full 98% had found jobs within three months of their graduation.[2/] It is apparent therefore that mere increasing the numbers of the people in the labour force does not necessarily contribute to the development of the potential resources countries possess.

49. What the large labour force in African countries lack is the necessary training, skills, and technological know-how and capital investments to contribute effectively to socio-economic development. A smaller labour force that is equipped with training, skills and technological know-how would be more productive than a large one that lacks training, skills and technological know-how.

50. High population growth rates normally lead to increased growth rates in the labour force as is shown in Table 1. Thus greater employment opportunities should be created to absorb the increasing numbers of the population in the labour force. The current situation in most African countries as already noted is characterised by large numbers of the unemployed and underemployed. It is

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1/ ECA, Progress in the areas of Employment Generation, Productivity Enhancement and Co-operation in the Use of High-Level Manpower, Document E/ECA/PAMM/HRD/CM/88/9.

2/ O. Folayan Ojo, "Employment Generation and Productivity Enhancement Strategies in Nigeria" (Mimeo).

clear that rapid population growth in the light of the slow or stagnating situation in creation of more jobs frustrates and makes it difficult for governments to improve the employment situation. Such a situation increases the unemployed, increases poverty and inequality. Lack of adequate investment is one of the reasons for the inability of governments to invest in projects and activities necessary for creation of new employment opportunities. Since most people do not have gainful employment that would be conductive to savings, the little that they earn is all spent on consumption. The effect of this is reflected in there being no savings that could be invested for development activities that could lead to creation of more jobs.

51. It must, therefore, be pointed out that reduction of population growth rate would to some extent, in the long run, help reduce government pressure on job creation difficulties created to a greater extent by rapid population growth that is not properly prepared to contribute effectively in socio-economic development. On a positive note, better employment opportunities to the population in the labour force and especially for women would contribute to reduction in population growth, increase the propensity to save and the savings could be used to investment in various developmental activities. Better employment opportunities for the majority in the population leads to better income distribution, lessens the level of poverty and thus improves the living conditions of the population in general.

52. In attacking problems of human resources planning, employment, and unemployment, in the light of rapid growing labour force, governments need to pay attention to the relation between development of education to the economic and social realities and needs of the country. Thus the education system should aim at training and educating the young people to be able to find gainful employment in the economy. The education system should prepare the young people to acquire and adopt technology as well as introduce innovations and technologies to suit problems of their countries. To do all these governments have to invest large amounts of money in education. Due to poor employment conditions, a number of educated and well qualified people have left their countries and are living in other countries. Improvement in employment and political conditions would reduce the brain drain. Lastly, the inclusion of policies to modify prevailing high population growth rates should form part of the strategy to resolve the problem of providing employment to the majority of the population.

e) Population, Environment and Resources

53. Population growth affects the resource base, environment and development. Conversely, availability of resources, the quality of environment and the level of development affect the population size, structure and its growth rate. These relationships vary among countries depending on the level of technology applied. Large capital investment coupled with the application of technology would make it possible to sustain a large population on a fixed resource base for a longer time. The hypothesis that the pressure from a large population growth could act as a stimuli to technological innovations which would then be applied to sustain that large population on existing resources does not seem to give hope to the African situation. The acquisition of the requisite technology is rather slow and not encouraging at all. It was the view of the Expert Group Meeting on Population,

Resources, Environment and Development in 1983 that in modern times, it is not likely that population pressure can contribute to technological advance unless there is modification of economic and political structures.[1/]

54. Overgrazing due to increased number of livestock is causing considerable deterioration of the grasslands. An FAO report on 8 countries in Southern Africa in 1984 revealed the extent of overgrazing. For some of the countries and major areas of others, the existing herds exceed the carrying capacity by 50 to 100 per cent.[2/] Such a situation contribute significantly to soil erosion and environmental degradation. A 1980 World Bank survey of selected African countries showed that fuelwood demand exceeded estimated sustainable yields in 11 of the 13 countries studied.[3/] Deforestation of trees for fuelwood is something that is causing a lot of concern for many governments as fuelwood is the main source of energy for cooking and heating. Increased population has meant more demand for fuelwood and hence most of the wood has been depleted. The effect of this is that since wood in the nearby surroundings has been depleted and women in the rural areas have to spend a lot of their time to travel to distant places to fetch firewood. In the case of towns this has had an impact of raising prices for firewood to certain levels that take up a considerable income of the families for fuelwood. It has been noted that in Ethiopia, for example, the price of increasingly scarce wood for fuel had risen ten folds during the 1970s and now takes up to 20% of households incomes.[4/] This also applies to many other African countries. Population overcrowding in urban areas without adequate housing, health, and water services contributes to health hazards as well as environmental pollution. The development of uncontrolled slums or shanty towns in all African urban areas tell the story vividly.

55. The Interaction Council set up by UNEP expressed a very grave situation regarding the balance between population, environment and development at its meeting in Tokyo and Hakone, Japan, in April 1986. The Council pointed out that the balance between population, environment and development had been lost. Being very concerned about population problems and continued deterioration of the environment, it then called on Governments to reduce military spending and place top priority on the interrelated issues of population, environment and development. The Council appealed to Governments to safeguard the environment using technological innovations. Finally, the council urged Governments to assess present and future resources in such a way as to lead to population policies through which all human beings may be reasonably assured of the satisfaction of their basic needs.[5/]

1/ United Nations, Population Resources, Environment and Development, op.cit., 1984, p. 24.

2/ World Watch Institute, Lester R. Brown and Edward C. Wolf, Reversing Africa's Decline World Watch paper No. 65, June 1985, p. 13.

3/ Ibid, p. 12.

4/ World Bank, Population Growth and Economic and Social Development Address by A.W. Clausen to the National Leaders' Seminar on Population and Development, Nairobi, Kenya, July 11, 1984, p. 11.

5/ United Nations Environment Programme, 1986 Annual Report of the Executive Director, Part one, Nairobi 1987, pp. 12-13.

56. Since deforestation, overgrazing, land mismanagement and pollution have had significant impact on the resource base and environment due to a greater extent to population growth, among the measures to improve the resource base and the environmental conditions should include control of deforestation, overgrazing, and soil erosion; undertaking of reafforestation programmes; improve the environmental health conditions; and programmes to reduce population growth rates. The World Watch Institute paper on "Reversing Africa's Decline" indeed emphasized programmes on reforestation, soil conservation and family planning.[1/] In a recent survey conducted by ECA in 1986/87 on the implementation of APPER and UN-PAAERD, of the 30 member States which responded, 90% indicated they were taking actions on reforestation programmes, 77% were controlling deforestation, and 53% were controlling overgrazing and/or over exploitation, and 63% were controlling soil erosion and/or salination.[2/] These efforts need to be intensified so as to achieve a resonable balance among population, resources and environment.

f) Rural/Urban Development

57. Migration from rural to urban areas is the main cause of rapid population growth of African towns and cities, particularly the capitals. During the early period urban areas attracted population from the rural areas as they offered alternative employment other than on the farm. There were better education, housing, health and other services in urban areas than in rural areas. Concentration of development activities in urban areas at the expense of rural areas has continued the migration trend to be mostly one directional -rural to urban areas. The results have been that the infrastructure in most African urban areas are inadequate to satisfy the various needs of the population - housing are insufficient, schools are not adequate, the employment opportunities are limited, the health services are overstretched, water and sewarage service are overloaded. The following statistics may illustrate some of the urban/rural development problems: In 1980, 85% of the population in Addis Ababa were reported to live in slums and squatter settlements, In the case of Luanda and Dar-es-Salaam the figures were 70% and 60% respectively.[3/] Although 81% of the urban population in Africa are provided with safe cleaning water this represents only 23% of the total population.[4/] Taking Ethiopia as an example, it has been indicated that 16% of the total population has access to clean drinking water while the figure for rural areas is 10%.[5/] Thus the majority of the population in rural areas lack clean drinking water. It has been observed that 50% of the combined urban population in developing countries receive adequate sanitation services while as in rural areas only 13% of the people have adequate sanitation services.[6/]

1/ World Watch Institute, Reversing Africa's Decline, Op.Cit., p. 71.

2/ ECA, Progress in Implementation of the United Nations Programme of Action for African Economic Recovery and Development and Africa's Priority Programme for Economic Recovery and Development, 1986-1990, E/ECA/CM.13/ 5, 6 April 1987, p. 9.

3/ United Nations Centre for Human Settlements (Habitat) Human Settlements Policies and Institutions: Issues, Options, Trends and Guidelines, Nairobi, Kenya, 1984, p. 5.

4/ United Nations Centre for Human Settlement (Habitat) A review of Technologies for the Provision of Basic Infrastructure in Low-Income Settlement , Nairobi, 1984, p. 15.

5/ The Ethiopian Herald of November 24, 1987.

6/ Same ref as footnote 4 above, p. 15.

58. What appears to be basically the cause of the rural to urban migration is that life in the rural areas is not attractive as there seem to be no real development in those areas. One way to reduce the problem and to encourage the population to remain and work in the rural areas is to invest in development projects in the rural areas. Such projects should focus on employment generation activities that raise incomes, and provide health, education, transportation, marketing and other services. This was emphasized in the KPA which recommended that Governments should revitalize rural economies and provide in rural areas, socio-economic services which stimulate and sustain balanced self-reliant development.[1/] This does not mean that governments should stop development activities in urban areas. Efforts should be continued to improve the conditions in urban areas as well but there should be special emphasis to have more development programmes in rural areas. Implementation of integrated rural development projects at a large scale should go a long way to resolve prevailing problems in rural and urban areas.

g) Aspects of the Consequences of International Migration

59. International miagration has various short- and long-term socio-ecoromic consequences, pertaining to, for example, manpower demand and supply, assimilation of immigrants and return migrants, rural development and provision of social services.[2/]

60. It should be noted that the consequences of international migration depends, among other factors, on the magnitude and type of migration, that is whether it is short or log-term in nature. In this context, taking the example of the three southern African labour suppliers staces, Botswana, Lesotho and Swaziland, the effects of the movements have been more severe for the economy of Lesotho given the much larger proportion of her labour force involved.[3/] In Lesotho, as a result of the emigration, agriculture has been transformed into a marginal activity, with rural incomes determined mainly by the presence or absence of migrant labourers in the household. The consequences of the migration are not, however, severe in Swaziland, for three main reasons: firstly because migrants are absent in the non-cropping season; secondly because only a few households cultivate crops requiring labour intensive methods and thirdly, because of the smaller and decreasing numbers of migrants involved. However, in the older labour reserve areas, decades of neglect of peasant farming and a massive brain drain has resulted in unemployment and poverty. The effects of labour migration on the economy of Botswana has been also minimal, since the country exports a relatively small amount of migrants to South Africa.

1/ ECA, Kilimanjaro Programme of Action on Population, p. 14.

2/ UN, The Determinants and Consequences of Population Trends, ST/SOA/SERA/SD/ New York, 1973, Chapter 7 (ECA).

3/ Economic Commission for Africa, Migratory Labour in Southern Africa, Papers presented to the Conference on migratory labour in Southern Africa, Zambia, 4-8 April 1978,(1985).

61. It has been shown that emigration has solved the problems of unemployment, in the short-run, of labour exporting countries, for example, in Burkina Faso in West Africa and Lesotho in Southern Africa, while, at the same time it has eased labour shortages in receiving countries (e.g. Côte D'Ivoire and South Africa).

62. On the other hand, such migrations have adversely affected rural economies of the sending countries in two ways. Firstly, in the shortrun, labour shortages have occurred during critical periods of the farming cycle, for example, in Lesotho. Even in areas, for example, in West Africa and Southern Africa where the migrations occur during the slack agricultural season, off-farm activities which are usually undertaken at this time, have in recent years declined in importance. Secondly, and more important, in the long-run, given the selective nature of labour migration, dominated by young males, critics have observed that it results in conservation in farming methods and in the choice of crops (for example, in Lesotho and Burkina Faso).

63. A recent problem pertaining to international migration in Africa has arisen in a number of African countries, such as in the Magreb and East and Southern Africa. This relates to the productive use domestically, of vastly expanding labour force, the result partly of decreased emigrations and return migrations dominated by young persons. It has been suggested that an alternative to emigration should be pursued at the level of development planning and policy.[1/] Explicitly, it has been proposed that, since a majority of emigrants come from rural areas, rural settlement projects, within the overall framework of integrated rural development programmes, have a major role to play in any future strategy for the solution of the problem.

IV SUMMARY AND RECOMMENDATIONS

64. The demographic phenomena of Africa has been shown to be characterised by high fertility, high but declining mortality and consequent high population growth rates. Africa is the only region among major regions of the world where population growth has continued to increase since 1950. For Africa as a whole, about 45 per cent of the population is under 15 years old. The median age of the population is about 17. Such a demographic profile has significant implications on socio-economic development.

65. Regarding international migration, it has been observed that in North Africa, the migrant labour flows were from Algeria, Morocco, and Tunisia to Western Europe. Libya and the oil rich Arab countries have been also important receiving countries of migrant labour from North Africa. In West Africa international migration consists mainly of labour mobility for employment from inland countries to coastal regions. Côte d'Ivoire, Ghana, and Senegal are major receiving countries of migrants from Burkina Faso, Mali and Niger. In recent years there have been restrictions on international movements in the region. There have been cases of mass expulsions of the foreign population to return to their countries. In Southern Africa the international migration has been dominated by migrant labour to South Africa from neighbouring countries. However, Zambia and Zimbabwe have also been receiving countries of migrants especially from Malawi in the past. Due to recent policies for Southern African countries to reduce reliance on South Africa, migration to South Africa is on the decline. Another form of international

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1/ Ibid.

migration which causes much concern in Africa's socio-economic development is that related to refugees.

66. An attempt has been made to show the interrelationships among population growth and related sectors such as food, health, education, employment, environment and resources, rural and urban development and consequences of international migration. African Governments have in principle, as reflected in the KPA, acknowledged the interrelationships between population and development and the need to ensure that population is the central focus of development planning.

67. Given the importance of population growth in determining demand for food, health, education, employment, housing, resource utilization and other social needs, governments need, in their efforts to foster rapid economic development, seriously to implement both demographic and social economic development policies that complement each other in the light of recommendations in the KPA. We reiterate below some recommendations which have been presented at various fora inresolving Africa's problems. The Joint Conference is requested to review the recommendations below:

i) Programmes to increase food production need to focus on adoption and implementation of policies that induce individual farmers to grow more food. Thus adoption and use of technology and innovation, price incentives, availability of and ease of access to markets, extension support services to farmers in the form of credit and supplies like fertilizer, seeds, education, etc. should form part of the packages to attain food self sufficiency and sustained agricultural development.

ii) Primary health programmes should give special attention to the education for women, provision of maternal and child health and family planning services as well as improvements in environmental health and provision of clean drinking water.

iii) In planning and implementation of educational programmes, attention need to be given to reduce the imbalance among males and females. Education should be oriented to prepare the young people to contribute to socio-economic development. Hence education should equipe the young people with necessary knowledge and skills as these would be essential in acquiring innovations and technologies for resolving development problems.

iv) Regarding resources and environment, governments need to take measures or intensify measures designed to improve the resource base and preserve the environment from degradation. The measures should include control of cutting of trees, overgrazing and soil errosion; undertaking reafforestation programmes; improving the environmental health conditions.

v) To reduce rural to urban migration and problems emanating therefrom, it is recommended that governments have to seriously implement development programmes in rural areas. Such programmes should ensure that adequate incomes are generated for the rural people and at the same time social and economic facilities and services should be provided to the rural population. In the context of UNPAAERD such programmes should include establishment of assistance for small farmers, especially women

food producers and rural youth; improving transport and communication, intensification of efforts to promote mass literacy and adult learning.

vi) To further contribute to socio-economic development, it is recommended that political conflicts which results in refugees problems should be significantly reduced or avoided.

vii) Finally, it is recommended that governments adopt and implement policies which are designed to reduce high fertility, mortality and population growth rates.

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Table 1 Selected socio-economic and demographic indi

Country	Population Growth Rate 1980-85 (%)	Mid-year population Estimate (million)	Growth Rate of (1980 at 19 price
	a/	a/	a/
Algeria	3.2	20.0	4.2
Angola	2.7	8.7	1.6
Benin	3.1	4.3	1.9
Botswana	3.6	1.1	12.1
Burkina Faso	2.4	7.3	2.7
Burundi	2.8	4.3	3.7
Cameroon	2.7	10.1	0.4
Cape Verde	1.2	0.3	3.6
Central African Republic	2.3	2.5	1.2
Chad	2.2	4.7	4.1
Comoros	3.1	0.4	0.3
Congo	3.0	1.8	1.2
Cote d'Ivoire	3.7	10.5	1.2
Djibouti	3.5(e)	0.4 (e)	1.4
Egypt	2.3	49.3	5.6
Equatorial Guinea	2.1	0.3	1.0
Ethiopia	2.9(e)	41.3	- 0.2
Gabon	1.6	1.0	4.0
Gambia	1.7	0.7	- 1.0
Ghana	3.2	15.0	- 0.0
Guinea	2.3	6.5	2.6
Guinea-Bissau	1.9	0.9	3.0
Kenya	4.1	23.1	1.5
Lesotho	2.5	1.6	- 1.1

ANNEX

Table 1 (Continued)

Country	Population Growth Rate 1980-85 (%)	1988 mid-year population Estimate (million)	Growth Rate of GDP 1980-1985 at 1980 prices (%)	Total Fertility Rate 1980-1985	Life Expectancy at birth both sexes 1980-85	Infant Mortality Rate Per 1000 1980-85	Population Literate Both Sexes 1985 (%)	Average Annual Growth of Labour Force (%) 1973-1984	Food production Index Growth Rate (%) for 1980 - 1986 Base year 1979 - 1981
Mauritania	2.9	2.1	2.80	6.9	44.0	137	28	2.3	0.37
Mauritius	1.9	1.1	4.32	2.8	66.7	28	83	2.3	3.54
Morocco	2.5	23.6	2.54	5.1	58.3	97	33	2.6	4.40
Mozambique	2.8	15.1	- 8.38	6.1	45.3	153	38	1.6	- 0.36
Niger	2.8	6.7	- 3.04	7.1	42.5	146	14	2.8	0.15
Nigeria	3.3	105.6	- 1.16	7.1	48.5	114	42	2.0	3.72
Rwanda	3.3	6.7	4.46	7.5	46.5	132	47	2.8	0.15
Sao Tome & Principe	2.3(c)	0.1(f)	- 6.72	7.0*	62.0**	48*	60	-	- 3.64
Senegal	2.6	7.0	3.52	6.5	43.3	142	28	2.2	2.93
Seychelles	0.6(c)	0.7	- 0.22	3.7*	49.0**	30*	72	-	-
Sierra Leone	2.3(c)	3.8	2.34	6.1	34.0	180	29	1.8	0.88
Somalia	2.9	5.0	0.12	6.6	40.9	155	12	2.6	0.70
Sudan	2.9	23.5	1.32	6.6	47.7	118	34	2.4	2.29
Swaziland	3.0	0.7	2.58	6.5	48.5	129	68	--	1.39
Togo	3.0	3.2	- 5.68	6.1	50.5	109	41	2.0	0.59
Tunisia	2.0	7.6	4.24	4.8	60.6	85	54	2.9	3.81
Uganda	3.3	17.2	2.34	6.9	49.0	112	57	2.2	6.12
United Republic of Tanzania	3.5	25.1	0.06	7.1	51.0	115	77	2.6	2.18
Zaire	2.9	32.8	1.74	6.1	50.0	107	61	2.3	2.69
Zambia	3.3	7.4	0.78	6.8	51.3	88	76	2.1	2.66
Zimbabwe	3.5	9.8	2.34	6.0	57.8	72	74	1.5	2.88

Notes on sources

(a) United Nations: World Population Prospects, Estimates and Projections as assessed in 1984, New York, 1986 (based on